Abstract of the Disclosure

According to the inventive method, incoming air enters (via 16) the separation unit (14); at least one fraction of said incoming air is supplied from the gas turbine (2), and at least one gas flow (via 20,24), which is enriched with nitrogen, is extracted from the separation unit (16); heat exchange occurs in a first exchanger (56) between the fraction of incoming air from the gas turbine (2) and a liquid fraction (58) to be heated in order to obtain a first heated liquid fraction (58); said heated liquid fraction (58) is added to a liquid mixture fraction (48) in order to obtain a liquid fraction to be cooled (60); heat exchange occurs between said liquid fraction which is to be cooled and the nitrogen-enriched gas flow in a second exchanger (50).